

SELECTIVELY MONITORING LOADS TO SUPPORT TRANSACTIONAL PROGRAM EXECUTION

ABSTRACT

One embodiment of the present invention provides a system that selectively monitors load instructions to support transactional execution of a process, wherein changes made during the transactional execution are not committed to the architectural state of a processor until the transactional execution successfully completes. Upon encountering a load instruction during transactional execution of a block of instructions, the system determines whether the load instruction is a monitored load instruction or an unmonitored load instruction. If the load instruction is a monitored load instruction, the system performs the load operation, and load-marks a cache line associated with the load instruction to facilitate subsequent detection of an interfering data access to the cache line from another process. If the load instruction is an unmonitored load instruction, the system performs the load operation without load-marking the cache line.